

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-2. (Cancelled)

3. (Currently Amended)

The apparatus of claim 1 An apparatus

comprising:

a plurality of photodetector elements disposed on a semiconductor substrate; and

a compound light directing member comprising wherein the compound light directing member comprises a light pipe bundle, at least some of the light pipes to individually direct light energy from one or more sources onto one or more of the photodetector elements.

outputs of the photodetector elements being electrically coupled such that an image associated with one or more sources may be synthesized at output circuitry, the photodetector elements and compound light directing member together comprising a substantially planar artificial compound eye.

4. (Original) The apparatus of claim 3 wherein the light pipe

bundle includes first and second light pipes, the first light pipe having an external surface that is at a first angle relative to the substrate to preferentially receive

light from a first direction, the second light pipe having an external surface that is at a second angle relative to the substrate to preferentially receive light from a second direction, the first and second angles and first and second directions being different from each other.

5. (Currently Amended) An apparatus comprising:

a plurality of photodetector elements disposed on a semiconductor

substrate;

a compound light directing member comprising ~~The apparatus of claim 1~~

~~wherein the compound light directing member comprises a plurality of~~

~~micromachined light directing elements, each of the micromachined light~~

~~directing elements including an opening, the apparatus further comprising; and~~

~~micromachine control circuitry to control an orientation of at least some of~~
~~the micromachined light directing elements relative to a surface of the substrate,~~

~~the orientation of each of the light directing elements to determine the light~~

~~energy received by an underlying photodetector element, the orientation of a first~~

~~set of micromachined light directing elements relative to the substrate being~~

~~controllable to be different than a relative orientation of a second set of the~~

~~micromachined light directing elements.~~

6. (Canceled)

7. (Currently Amended) An apparatus comprising:

a compound exposure determining member coupled to a semiconductor substrate, the compound exposure determining member including a plurality of light scanning elements, each of the light scanning elements including an integrated photodetector; and

micromachine control circuitry to control an orientation of at least some of the light scanning elements relative to the substrate to determine a direction from which light is received at the respective integrated photodetectors, the micromachine control circuitry to control a first set of the light scanning elements to be at a different relative orientation than a second set of the light scanning elements.

8. (Cancelled)

9. (Original) The apparatus of claim 7 further including output circuitry to provide at least one image corresponding to light sources that provide light received at the photodetectors.

10. (Currently Amended) An apparatus comprising:
a light directing member including a plurality of light directing fiber optic elements ~~in a single layer~~; and
an array of photodetector elements disposed on a single integrated circuit device, a set of the photodetector elements being coupled to receive light energy from a source via one or more of the light directing fiber optic elements, the set of

the photodetector elements being wired to produce an image corresponding to the source at output circuitry to be coupled to the set of the photodetector elements,

wherein the light directing member and the single integrated circuit device together provide a substantially planar, artificial, compound eye.

Claims 11-14 (Cancelled)

15. (Currently Amended) A method comprising:

determining from which angles and which point sources light energy is directed to associated photodetector elements integrated on a single substrate using a compound exposure determining member, the compound exposure determining member including a single layer of exposure determining an array of micromachine elements, a first subset of the micromachine elements being controllable to have a different orientation than a second subset of the micromachine elements;

producing an output signal at each photodetector element that is responsive to the light energy received by the respective photodetector element; and

integrating outputs of the photodetector elements to produce an image associated with the point sources.

16. (Cancelled)

17. (Canceled).

18. (Currently Amended) The method of claim 15 wherein determining from which angles and which point sources light energy is directed to associated photodetector elements includes using controllable micromachine light directing elements, wherein the ~~single layer of exposure~~ determining elements includes micromachine elements include one of micromachine elements including an opening to allow light to pass through and micromachine elements including an integrated photodetector.

Claims 19-22 (Canceled)
